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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,855	10/30/2003	Xiao-Ming Li	123871/00001	8074

7590 06/10/2004

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EXAMINER

JULES, FRANTZ F

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,855

Applicant(s)

LI ET AL.

Examiner

Frantz F. Jules

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05062004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10302003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Election/Restrictions

1. Applicant's election with traverse of Specie A, Figs. 1-3 in the reply filed on 05062004 is acknowledged. The traversal is on the ground(s) that claim 1 is generic. This is been found persuasive and the election of species is withdrawn.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the recitation of "three steel inserts spaced around the first end which can be aligned with corresponding openings in the differential carrier" in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of

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any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6, 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Bear et al (US 5,664, 847).

Claims 1-4, 6, 8-13

Bear et al discloses an axle assembly comprising, in combination an axle tube (20) having a first end and a second end, a mounting module formed as a unitary extension of the axle tube; and at least one steel insert positioned near the first end of the axle tube, wherein the at least one steel insert (30) is adapted to be welded with a differential carrier to secure the axle tube to the differential carrier as disclosed in 3, lines 6-10, wherein the differential carrier comprises one of ductile iron and aluminum.

wherein the mounting module comprises at least one of a yoke (44), a shock absorber attachment bracket, a stay bar attachment bracket (40), an upper control arm attachment bracket (36), a lower control arm attachment bracket (38), a spring seat (42), a jounce bumper bracket (34), a steering damper attachment bracket, and a track bar attachment bracket, see fig. 2, abstract section.

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wherein the mounting module is formed unitary with the axle in a lost foam process as disclosed on page 2 of applicant's specification.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bear et al in view of Branholt (US 5,655,418).

Claim 5

Bear et al teach all the limitations of claim 5 except for an axle assembly wherein the axle tube is press fit into an opening in the differential carrier. The general concept of press fitting a tube into an opening in the differential carrier is well known in the art as illustrated by Branholt which discloses the teaching of press fitting of an axle tube into an opening of the differential carrier, see col 5, lines 15-17, col. Lines 40-43. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bear et al to include the use of press fitting of the axle tube into an opening in the differential carrier as taught by Branholt in order to reduce the amount of stress and weld needed at the junction of the tube and the differential.

Claim 7

Regarding using three steel inserts as recited in claim 7, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bear et al to include

the use three steel inserts in his advantageous system, as the duplication/reduction of identical parts which perform essentially the same function is a common occurrence throughout the axle assembly design art, and the specific number of steel inserts used on an axle tube would have been an obvious duplication of parts, depending upon such common factors as the loading imposed on the axle assembly, the yield strength of the axle tube material, the length of the axle assembly; the ordinarily skilled artisan choosing the best number of steel inserts which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Skelton et al, Dewald et al, Easley, Hiro et al, Morse et al, Osenbaugh et al, Kuwahara are cited to show related axle assembly comprising inserts for fixing axle tube to the differential.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frantz F. Jules
Examiner
Art Unit 3617

FFJ

June 4, 2004

**FRANTZ F. JULES
PRIMARY EXAMINER**

